

MESOTRIONE EVALUATIONS IN SWEET CORN FOR PROCESSING AND FRESH MARKET.
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Mesotrione (2-[4-methylsulfonyl-2-nitrobenzoyl]-1,3-cyclohexanedione) at 210 g ai/ha applied preemergence and 105 g ai/ha applied postemergence was evaluated for crop selectivity in sweet corn. Preemergence applications were made using a 40:400 g/l mesotrione:s-metolachlor co-formulation and a 32:320:120 g/l mesotrione:s-metolachlor:atrazine co-formulation. Effects of the postemergence spray additive treatments 1 % v/v crop oil concentrate (COC) + 2.5% v/v urea ammonium nitrate, 0.25 % v/v non-ionic surfactant (NIS) + 2.5% v/v urea ammonium nitrate (UAN), and 1% v/v COC were evaluated. Also, a postemergence tank mix of 105 g ai/ha mesotrione + 280 g atrazine + 1 % v/v COC was tested. Sweet corn hybrids and trial locations were chosen based on their commercial importance in the processing and fresh market industries in the United States. Preemergence applications of 210 g ai/ha mesotrione in the two co-formulations in general were safe to all sweet corn hybrids tested. Few negative effects were detected of preemergence applications of mesotrione on sweet corn emergence, early season injury, or yield at harvest. Postemergence applications of mesotrione + COC and mesotrione + atrazine + COC were also safe to most hybrids tested. However, when COC + UAN or NIS + UAN was used as an additive, postemergence applications of 105 g ai/ha mesotrione caused significant injury (bleaching) in some hybrids. Sweet corn yields generally were not reduced following postemergence applications of mesotrione or mesotrione + atrazine, regardless of spray additive or observed injury level. Results of these studies indicate that mesotrione has good potential for weed control in sweet corn for the processing or fresh market industries.